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Community Level Assessment for Breastfeeding in the Gateway District

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The document mentioned above has been reviewed and accepted by the student's advisor, on behalf of the advisory committee, and by the Assistant Dean for MSN and DNP Studies, on behalf of the program; we verify that this is the final, approved version of the student's DNP Project including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Vanessa Flannery, Student

Dr. Carolyn Williams, Advisor

DNP Practice Inquiry Project Report

Community Level Assessment for Breastfeeding
in the Gateway District

Vanessa Flannery

University of Kentucky
College of Nursing

Fall 2016

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Introduction to DNP Practice Inquiry Project

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Introduction to DNP Practice Inquiry Project

This Practice Inquiry Project report consists of three manuscripts. The first manuscript is a literature review exploring breastfeeding in rural areas. As a state, Kentucky has one of the lowest rates of breastfeeding in the nation. By comparison, the Gateway District of Kentucky has significantly lower rates than their urban counterparts. A literature review was conducted to explore breastfeeding support and sociodemographic characteristics of breastfeeding in rural areas.

The second manuscript documents a community level assessment of institutional support for breastfeeding in the Gateway District of Kentucky. A descriptive study was conducted to identify institutional support of breastfeeding women. Data was collected during interviews based on the framework of the Ten Step program from the Baby-Friendly Hospital Initiative (BFHI) (WHO & UNICEF, 2009) and the Mother-Friendly Worksite Initiative (Texas Department of State Health Services, 2012). Respondents were asked to answer questions to determine breastfeeding support from the healthcare, education and business communities. Strengths and barriers were identified that may affect breastfeeding rates for this rural area in Eastern Kentucky.

The third manuscript analyzes the enactment of Kentucky House Bill 1 (HB1) and House Bill 217 (HB217) on prescription drug use. Despite the implementation of Kentucky All-Schedule Prescription Electronic Reporting (KASPER) in 1999, and a subsequent update to enhanced KASPER (eKASPER) in 2005, problems persisted and compliance among the health care community was low, leading to the enactment of HB1 in April 2012, and the amendments of HB217 in March 2013. The prescription drug abuse issue in the state of Kentucky has reached

levels of epidemic proportions, resulting in numerous deaths, elevations in the level of drug trafficking, and increases in the financial burdens for the state and nation through rises in health care costs and fraudulent use of programs such as Medicaid. In order to deepen the understanding of how current methods of controlling the prescription drug abuse issue came into being, an analysis of HB1 and HB217 was performed utilizing John Kingdon's Multiple Streams model, as presented in *Agendas, Alternatives and Public Policies* (1995), directly related to Kingdon's ideologies on policy formation in the United States.

Manuscript One

Literature Review:
Breastfeeding in Rural Areas

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Abstract

Purpose: A comprehensive literature review was conducted to identify studies dated 2011 or later which examined breastfeeding support and sociodemographic characteristics of breastfeeding in rural areas. Priority was given to articles that focused on breastfeeding support or outcomes in the community.

Method: Electronic reviews of CINAHL, MEDLINE (EBSCOHost), and PUBMED were conducted to identify articles appropriate for inclusion. Primary consideration was given to articles related to breastfeeding in the United States with the additional characteristic of being in a rural geographic area. The search terms “breastfeeding”, “rural”, “community” and “support” were used.

Findings: Eight (8) articles met inclusion criteria and were reviewed. Findings from available research centered on healthcare support, business support, perspectives of pregnant women and health and lifestyle behaviors associated with breastfeeding among lower socioeconomic women in rural areas.

Conclusions: In rural communities, shared characteristics such as geographic isolation, few economic resources, and limited access to health care might result in distinct influences on women’s infant feeding decisions. Despite these differences, breastfeeding in rural communities has rarely been studied.

Clinical Relevance: Numerous research studies have demonstrated the benefits of breastfeeding for both mother and infant. Breastfeeding rates in rural areas are much lower than their urban counterparts. More research needs to be conducted in assessing community level support for the breastfeeding woman and identifying patient reported barriers specific to rural locations.

Background

Human milk is the ideal food for most infants. Breast milk is the healthiest choice at the least expensive cost. It is always fresh, perfectly clean and just the right temperature. Breastfeeding benefits infants and their mothers. Breastfed infants receive antibodies from breast milk, which protect against infection in the early postpartum period, and breastfeeding is less expensive than formula feeding (American Academy of Pediatrics, 2012; Lynch, Bethel, Chowdhury, & Moore, 2011). Breastfeeding for any length of time has been associated with a 64% reduction in nonspecific gastrointestinal tract infections. Other benefits include reduction in severity of a wide range of infectious diseases such as bacterial meningitis, urinary tract infections and sepsis in preterm infants (Pound & Unger, 2012). Breastfeeding helps the baby's immune system mature, protecting against viral, bacteria and parasitic infections. It also increases the effectiveness of immunizations thereby increasing protection against polio, tetanus, and diphtheria (Khan, Vesel, Bahl, & Martines, 2015). The focus of this manuscript is to present the benefits of breastfeeding infants, the prevalence of breast feeding with particular attention to the low prevalence in rural areas and characteristics associated with breastfeeding in rural communities.

Benefits of Breastfeeding

Breastfeeding lowers a baby's risk of having asthma or allergies later in childhood (Lodge & Dharmage, 2016). Babies who are breastfed exclusively for the first 6 months, without any formula, have fewer ear infections, respiratory illnesses, and problems with diarrhea. They also have fewer hospitalizations and trips to the doctor (Wambach & Riordan, 2016). In some studies, breastfeeding has been linked to higher intelligence scores in later childhood (Holme, MacArthur & Lancashire, 2010). The physical closeness, skin-to-skin touching, eye contact during

breastfeeding, all help the baby bond with the mother and feel secure. Breastfed infants are more likely to gain the right amount of weight as they grow rather than become overweight children (Wambach & Riordan, 2016). The American Academy of Pediatrics (AAP) states breastfeeding also plays a role in the prevention of sudden infant death syndrome (SIDS). Breastfeeding has been thought to lower the risk of diabetes, obesity, and certain cancers in the infant but more research is needed (American Academy of Pediatrics, 2012).

There is sufficient evidence of maternal benefits of breastfeeding too, although these have not been as well studied as the advantages to the child. Women who have breastfed for two years or more show a 37% lower risk of developing coronary heart disease (Godfrey, 2009). Longer duration of breastfeeding is also associated with reduced incidences of type II diabetes and lowered risks of ovarian, uterine, and breast cancer (Godfrey & Lawrence, 2010). Women who breastfeed for 24 months have a 25% lower risk of premenopausal breast cancer (Steinkraus, 2007). Oxytocin produced after childbirth stimulates contractions, minimizing blood loss and encouraging rapid uterine toning (Godfrey & Myers, 2009). Because breastfed babies are generally healthier, their mothers miss less work and spend less time and money on pediatric care (Godfrey & Myers, 2009). Breastfeeding women report increased self-confidence and a stronger sense of connection with their babies (Schwarz & Nothnagle, 2015).

Breastfeeding Prevalence and Rural Experience

There are social and community implications of breastfeeding as well. One estimate suggests if 90% of US women breast-fed exclusively for 6 months, there could be a cost savings of \$13 billion due to the direct and indirect costs of otitis media, gastroenteritis, necrotizing enterocolitis, lower respiratory tract infections, atopic dermatitis, obesity, sudden

infant death syndrome, childhood asthma, childhood leukemia, type 1 diabetes, and the cost of premature death (Bartick & Reinhold, 2010).

National breastfeeding data collected in 2013 reveals that 79.2% are ever breastfed, 49.4% are breastfeeding at six months, 26.7% are breastfeeding at 12 months, 40.7% are exclusively breastfeeding at three months and 18.8% are exclusively breastfeeding at 6 months (CDC, 2014). Kentucky has one of the lowest rates of infants breastfed nationwide (KY 61.3%, National 79.2%) (Centers for Disease Control and Prevention, 2014). Additionally, when examining breastfeeding rates in different counties in KY, an exceptional difference was found between urban and rural areas. Fayette, Jefferson, and Scott (urban counties) reported breastfeeding rates of 77%, 70%, and 71% respectively, while the Appalachian region in eastern Kentucky with counties like Laurel, Letcher, and Johnson (rural counties) reported rates of 48%, 39%, and 31% (Kentucky Cabinet for Health and Family Services, 2011).

Rural Americans are a cohort that experiences significant health disparities. Health disparities are differences in health status when compared to the general population, often characterized by indicators such as higher risk of obesity and smoking which leads to a higher incidence of disease and disability, increased mortality rates, lower life expectancies, and higher rates of pain and suffering. Rural risk factors for health disparities include geographic isolation, lower socio-economic status, higher rates of health risk behaviors, and limited job opportunities. Higher rates of chronic illness and poor overall health are found in rural communities when compared to urban populations (Bushy, 2016). Kentucky has one of the highest rates of childhood obesity in the nation (KY 19.7%, National 16.9%) (NCSL, 2014). Obese children have higher risk of becoming obese adults which increases the likelihood for obesity-related health outcomes (Stabler, Cottrell, & Lilly, 2014). There is growing evidence that the rates of obesity

and other chronic diseases can be reduced by increasing breastfeeding (Bergmann et al., 2003; Harder, Bergmann, Kallischnigg, & Plagemann, 2005; Kelishadi & Farajian, 2014; Le Huerou-Luron, Blat, & Boudry, 2010; Spatz, 2014; Stabler et al., 2014).

In order to identify factors that influence breastfeeding in a rural population, a literature review was performed. The aim was to identify scientific evidence on breastfeeding barriers, look for evidence about community level of support for breastfeeding mothers and describe socio-demographic characteristics of the breastfeeding population.

Systematic Literature Review

Analysis for evidence surrounding breastfeeding barriers and support in rural geographic regions was examined. The patient population, intervention/issue, comparison with another intervention or issue, outcome and timeframe (PICOT) question to focus the systematic review was, “*Which are the factors influencing breastfeeding in rural areas of the United States?*” The search engines CINAHL, MEDLINE, EBSCOHost, and PubMed were used to identify peer-reviewed studies from 2011 to 2016 that were related to key words for review. The keywords to search the literature were *breastfeeding*, *rural*, *community*, and *support* from the years of 2011 through 2016. The search resulted in 43 articles that were further narrowed to include journals written in the English language; peer reviewed, and research-based articles that contribute to the existing body of nursing science. Articles focusing their research outside of the United States were excluded. Eight (8) articles met inclusion criteria and were reviewed. (See Table 1 for detailed information on each study)

Results

The articles were a mix of quantitative descriptive, retrospective and qualitative studies of breastfeeding support used in a variety of settings. Two articles examined healthcare quality

such as hospital quality scores and hospital initiatives. One article examined interpersonal communication related to workplace breastfeeding support. Two articles reviewed breastfeeding support from the mother's perspective utilizing interviews, focus groups, and questionnaires. Two articles described breastfeeding support from a socioeconomic perspective from individuals utilizing public assistance. One article evaluated breastfeeding barriers and support in a rural setting including perceptions from both healthcare providers and breastfeeding mothers.

Health Care

The 2015 Allen, Perrine, and Scanlon study described whether maternity care practices that support breastfeeding vary by level of urbanization. Data from 2007, 2009, and 2011 Maternity Practices in Infant Nutrition and Care (mPINC) surveys were linked with Rural-Urban Continuum codes to categorize counties in which hospitals were located. Analysis showed a pattern of lower hospital quality scores in rural areas. One study conducted in-depth interviews of 10 healthcare workers identifying gaps in hospital and community breastfeeding support. Themes identified were lack of realistic information about the breastfeeding experience, nursing staff time constraints for offering patient education, and lack of continued support (Goodman, Majee, Olsberg and Jefferson, 2016).

In 2016, Munn and collaborators, evaluated the impact of the Baby-Friendly Hospital Initiative (BFHI) on breastfeeding and early infant health outcomes. Results support the BFHI's success in facilitating successful breastfeeding initiation and exclusivity. Breastfeeding duration also appears to increase when mothers have increased exposure to Baby-Friendly practices which is lacking in rural areas (Munn, Newman, Mueller, Phillips, & Taylor, 2016).

Business

Only one article met the inclusive criteria for breastfeeding support in the business community (Anderson, Kuehl, Drury, Tschetter, Hildreth, & Lamp, 2015). The article identified described a qualitative study of 23 business representatives in a rural city. Results indicated that interpersonal communication about workplace breastfeeding support was often lacking or ambiguous and was complicated by issues of age, sex, and position. Interpersonal communication about policies is important because it is a dynamic process involving both people in the conversation. During interpersonal communication, questions can be asked and can be answered, ideas can be clarified, and solutions can be generated (Anderson, et al., 2015).

Breastfeeding Women

Another facet of the Goodman, et al. (2016) study consisted of a focus group of 10 mothers who were breastfeeding or had recently breastfed. Emerging themes were similar to those identified by health care providers but from a breastfeeding mother's perspective. Themes included realistic expectations of the breastfeeding process, time consuming nature of breastfeeding, and lack of support following discharge.

Ruffin and Renaud (2015) conducted a cross-sectional study examining the breastfeeding intentions of a targeted population in rural Virginia by administering a self-reporting 27 item questionnaire. Approximately 66% of the women reported initiating breastfeeding. The association between prenatal education and breastfeeding was not statistically significant. Breastfeeding support was reported at a high level from healthcare and family members. Older, more educated women and those who have previously breastfed were more likely to breastfeed. Women with extended families who had breastfed also had a higher initiation rate. A suggestion from the results of the study, specific to target rural populations and other underserved areas, was

to offer standardized prenatal education curricula and lactation services through the use of social media or other telehealth modalities (Ruffin & Renaud, 2015).

Tucker, Wilson, and Smandari (2011) conducted an in-depth interview with 22 black, white, and Hispanic teen mothers in central North Carolina utilizing the Pregnancy Risk Assessment Monitoring System (PRAMS). To maximize variation according to urban and rural areas and racial/ethnic groups, purposive sampling was conducted. Fifty-two percent of teen mothers initiated breastfeeding but half of those stopped within the first month. The most common reasons for discontinuing breastfeeding include returning to school (34%), feeling that breast milk alone did not satisfy the baby (33%) or that they were not producing enough milk (32%), nipple pain (28%) and *other* reasons (19%) (Tucker, Wilson, & Smandari, 2011). Black or white teens were less likely to initiate breastfeeding and to continue for longer than Hispanic teens. Common barriers to breastfeeding included not liking breastfeeding, returning to school, nipple pain, and insufficient milk. Qualitative findings from rural teens regarding breastfeeding included, “I quit once I went back to school because there was no way I could do it.....because I would have to like go pump like every two to three hours, and I just couldn’t do that.”, “Through my whole pregnancy, they asked was I going to bottle or breastfeed. I wasn’t sure, but none of them...tried to encourage either one.” and as one participant explained, her baby girl “would get like mad all of a sudden because she couldn’t get [any milk] and just cry a lot.....so I would have to just give her a bottle.” (Tucker, et al., 2011)

Low Socioeconomic Status

One descriptive study of women enrolled in a Women, Infants and Children (WIC) program provides insight into maternal characteristics associated with breastfeeding among urban versus rural women. Rural women were more likely to use WIC during the first trimester

than women in urban areas. In rural areas, participants smoked more prior to, during, and after pregnancy than participants in urban areas. Most rural participants reported not drinking alcoholic beverages prior to and during their pregnancy. For both urban and rural WIC women, smoking during pregnancy and not using multi-vitamins further reduced the odds of breastfeeding initiation (Jacobson, Twumasi-Ankrah, Redmond, Ablah, Hines, Johnston, & Collins, 2015).

A longitudinal study by Sparks (2011) was used to document racial/ethnic differences in breastfeeding duration among mothers from seven diverse racial/ethnic groups in rural and urban areas. These breastfeeding mothers were among income and categorically eligible WIC participants. Using data from the Longitudinal 9-Month–Preschool Restricted-Use data file of the Early Childhood Longitudinal Study–Birth Cohort, this research assessed racial/ethnic differences in breastfeeding initiation and duration, maternal and child health characteristics, social service usage, and sociodemographic characteristics. Among all mothers, Asian, Foreign-Born Mexican-Origin (FBMOH), and other Hispanic mothers were most likely to initiate breastfeeding.

Significance

There is an abundance of research available on the topic of breastfeeding. There is, however, a drastic decrease in evidence-based publications that are specific to breastfeeding among mothers living in rural locations. Synthesis of the literature indicates there are multiple factors that contribute to overall decreased initiation of breastfeeding in rural areas that include but are not limited to: lack of access to care and services, lack of lactation consultants and peer support, limited staff development and time, and an insufficient number of Baby Friendly Hospital Initiative (BFHI) facilities (Munn et al., 2016; Goodman et al., 2016; Allen, Perrine, &

Scanlon, 2015; Ruffin & Renaud, 2015). Anderson et al., 2015 was the only identified work that reported workplace breastfeeding support. Three major themes emerged in their work: (1) interpersonal communication may be more important than written communication for enacting breastfeeding support, (2) multiple factors (age, gender, and power dynamics) complicate the interpersonal communication required to enact breastfeeding support in local businesses, and (3) positive interpersonal communication strategies may improve the success of workplace breastfeeding support (Anderson, et al., 2015).

From a community practice perspective, gaps in breastfeeding support illustrate an essential need for collective engagement of local stakeholders as the cornerstone to implement effective breastfeeding interventions. Implementation of breastfeeding support programs that evaluate the attitudes of the workplace environment, local policy makers, healthcare providers and the overall community may be beneficial. One approach described in the literature reviewed identified telehealth through the use of social media to enhance breastfeeding support as an alternative, cost-effective means to gaps in breastfeeding support.

Limitations

Limitations of this literature review include the time frame for the studies going back five years. While a greater pool of information could be gathered utilizing older data, current findings of rural community support for breastfeeding was the focus of this manuscript. A plethora of information on breastfeeding is available from other rural countries but these did not fit the unique support or barriers seen in rural areas of the US. Due to the small sample size and unique qualities of rural areas included in the research studies, findings may not be generalized for all rural areas in the US. Several of the studies included both urban and rural participants with limited discussion on qualities unique to each area.

Conclusion

Review of current, evidence-based literature can guide successful planning of breastfeeding support programs to be implemented in rural locations. A major challenge to breastfeeding women living in rural isolated communities is lack of access to care and services. Resources such as lactation consultants and peer support are necessary for making exclusive breastfeeding the cultural norm.

Conversations related to challenges and/or barriers associated with breastfeeding should take place to prevent unrealistic expectations. Breastfeeding duration also appears to increase when mothers have increased exposure to Baby-Friendly practices. Improving policies and practices around providing breastfeeding assistance, staff training, and structural and organizational aspects of care could enhance hospital practice. Positive and open interpersonal communication can enhance workplace breastfeeding support, especially in rural communities.

Table 1

Integrative Review of Breastfeeding in Rural Areas

Complete Citation	Sample and Setting	Study Design, Purpose, and Methods or Intervention	Measured Outcomes, Key Findings	Limitations	Results/ Implications
Allen, J. A., Perrine, C. G., & Scanlon, K. S. (2015). Breastfeeding Supportive Hospital Practices in the US Differ by County Urbanization Level. <i>Journal Of Human Lactation: Official Journal Of International Lactation Consultant Association</i> , 31(3), 440-443. doi:10.1177/0890334415578440	Maternity Practices in Infant Care (mPINC) surveys from maternity care hospitals and birthing centers (response rate > 80% for all survey years, n=2666-2738). Free-standing birth centers were excluded from the analysis (n=118-143). Hospitals not included in the AHA could not be included in the analysis (n=44-74). The survey assesses infant feeding and maternity care	Data was linked from the 2007, 2009, and 2011 Maternity Practices in Infant Nutrition and Care (mPINC) surveys with Rural-Urban Continuum Codes to categorize hospital counties as metropolitan urbanized, nonmetropolitan urbanized, less urbanized, and thinly populated.	Across the 3 surveys, the average mPINC score increased within each level of urbanization. The mPINC score was higher for hospitals located in more densely populated counties. The gap in mPINC scores between metropolitan urbanized and thinly populated counties decreased from 10 points in 2007 to 6 points in 2011.	The 4 general urbanization categories used for this analysis mask within-county differences and existing regional differences. Also, mPINC is a self-reported survey filled out by a key informant(s) at each hospital. Due to the exclusion criteria for this analysis, mPINC scores described may not exactly match previously published scores.	Analysis showed a pattern of lower hospital quality scores in more rural areas of the United States. Data from 2011 suggest that these differences in the overall score may be driven by particularly large differences in policies and practices.

	policies and practices.				
Anderson, J., Kuehl, R. A., Drury, S. A. M., Tschetter, L., Schwaegerl, M., Hildreth, M., . . . Lamp, J. (2015). Policies Aren't Enough: The Importance of Interpersonal Communication about Workplace Breastfeeding Support. <i>Journal of Human Lactation</i> , 31(2), 260-266 267p. doi:10.1177/0890334415570059	Three focus groups were conducted with 23 business representatives from a rural city in the Midwest US. Participants were recruited through the area chamber of commerce.	Qualitative research design. The purpose was to describe interpersonal communication related to workplace breastfeeding support. Major themes were identified from the focus group responses.	Three major themes were revealed about interpersonal communication concerning breastfeeding support in the workplace.	The sample is a limitation. Qualitative research, unique characteristics of sample. Participants self-selected into these groups may have a more vested interest in the topic than typical employees. All but 2 participants were female.	Results from this study indicated that interpersonal communication about workplace breastfeeding support was often lacking or ambiguous and was complicated by issues of age, sex, and position.
Goodman, L. R., Majee, W., Olsberg, J. E., & Jefferson, U. T. (2016). Breastfeeding Barriers and Support in a Rural Setting. <i>MCN. The American Journal Of Maternal Child Nursing</i> , 41(2), 98-103. doi:10.1097/NMC.0000000000000212	In-depth interviews with 10 healthcare providers and 3 breastfeeding mothers. Focus group of 10 mothers who were breast-feeding or had recently breastfed were conducted in	Qualitative face-to-face community needs assessment was conducted. Interview and focus group questions were designed to capture a holistic perspective of breastfeeding issues.	Gaps in breastfeeding support illustrate an essential need for engagement of local stakeholders.	Exclusion of mothers who did not initiate breastfeeding is a limitation of this assessment. Qualitative nature of this assessment only allows conclusions about this community.	Themes: lack of realistic information about the breastfeeding experience, breastfeeding time constraint, and lack of continued support.

	a rural area in Missouri.				
Jacobson, L., Twumasi-Ankrah, P., Redmond, M., Ablah, E., Hines, R., Johnston, J., & Collins, T. (2015). Characteristics Associated with Breastfeeding Behaviors Among Urban Versus Rural Women Enrolled in the Kansas WIC Program. <i>Maternal & Child Health Journal</i> , 19(4), 828-839 812p. doi:10.1007/s10995-014-1580-2	The total sample size was 17,067 WIC women (14,268 urban and 2,799 rural Kansans) after removal of 242 cases from the initial sample size of 17,309 for the 2011 program year. All participants were mothers who had received benefits from the Kansas WIC program.	The purpose of this descriptive study was to provide further insight into maternal demographics, health, and lifestyle behaviors associated with breastfeeding among women enrolled in the Kansas WIC program. The Pregnancy Nutrition Surveillance System (PNSS) questionnaire was used to collect data from women enrolled in the Kansas WIC program in 2011.	The majority of all participants were non-Hispanic white, between 20 and 29 years old, high school graduates, earned <\$25,000/year, and had a household size ranging from one to four individuals. Most participants were normal weight (39.6 %) before pregnancy, but overweight (31.2 %) or obese (40.1 %) after pregnancy.	This study's findings are somewhat limited in that they may not be generalizable to all states. States that do not participate in the PNSS may still provide WIC benefits. Therefore, national PNSS reports are not representative of all WIC programs and are also not representative of all low-income pregnant women.	Urban and rural WIC participants differ significantly regarding socio-demographics, program participation, and health behaviors.
Munn, A. C., Newman, S. D., Mueller, M., Phillips, S. M., & Taylor, S. N. (2016). The Impact in the United States of the Baby-Friendly Hospital Initiative on Early	Studies were examined to evaluate the impact of the Baby-Friendly Hospital Initiative (BFHI) on breastfeeding and	Using the Social Ecological Model as a guiding theoretical framework, results were categorized into four interrelated multilevel factors: (1) maternal/infant dyad	Of the 10 steps of the BFHI, step 3, prenatal education and step 10, postnatal breastfeeding support are the most difficult	This review was limited to studies conducted in the United States, thus potentially missing lessons	Results support the BFHI's success in facilitating successful breastfeeding initiation and exclusivity.

<p>Infant Health and Breastfeeding Outcomes. <i>Breastfeeding Medicine: The Official Journal Of The Academy Of Breastfeeding Medicine</i>, 11, 222-230. doi:10.1089/bfm.2015.0135</p>	<p>early infant health outcomes in U.S. populations.</p>	<p>factors, (2) provider factors, (3) hospital organizational factors, and (4) policy/systems factors.</p>	<p>steps to implement; however, those steps have the potential to significantly impact maternal breastfeeding decisions.</p>	<p>learned from studies conducted in other countries. Exclusion criteria could have limited the availability of qualitative evidence to address BFHI implementation factors.</p>	<p>Deficiencies in breastfeeding tracking mechanisms have limited reliable breastfeeding duration data.</p>
<p>Ruffin, S. D., & Renaud, M. (2015). Prenatal Education, Significant Other Support and Demographic Determinants of Breastfeeding within a Rural Community. <i>Online Journal Of Rural Nursing & Health Care</i>, 15(2), 132-151 20p. doi:10.14574/ojrnhc.v15i2.372</p>	<p>A convenience sample of 41 post-partum women were recruited from a rural hospital within 48 hours of giving birth. Participants were administered a self- reporting 27-item questionnaire.</p>	<p>This study evaluated the impact of prenatal education, significant other support and demographics on breastfeeding initiation of women residing in a small rural community. The study used a cross-sectional design that prospectively examined the breastfeeding intentions of the targeted population.</p>	<p>Approximately 65.9% of the women reported initiating breastfeeding. Prenatal education was not statistically significantly associated using chi-square analysis at $p < 0.05$. Based on a Likert scale ranging from 1- least supportive to 3- very supportive, breastfeeding moms report a high level of support from healthcare</p>	<p>A limitation of the study is its small sample size.</p>	<p>Lack of access to care and services creates a major challenge to breastfeeding women living in rural isolated communities. Resources such as lactation consultants and peer support are necessary for making exclusive breastfeeding the cultural norm.</p>

			providers and family members with mean scores ranging from 2.44 to 2.96.		
Sparks, P. J. (2011). Racial/ethnic differences in breastfeeding duration among WIC-eligible families. <i>Women's Health Issues: Official Publication Of The Jacobs Institute Of Women's Health</i> , 21(5), 374-382. doi:10.1016/j.whi.2011.03.002	Mothers who initiated breastfeeding, ranging from 1 to 12 months, and met income or categorical eligibility requirements to receive WIC benefits.	The purpose was to document racial/ethnic differences in breastfeeding duration among mothers from seven diverse racial/ethnic groups in rural and urban areas of the United States that initiated breastfeeding among income and categorically eligible WIC participants. Using data from the Longitudinal 9-Month–Preschool Restricted-Use data file of the Early Childhood Longitudinal Study–Birth Cohort, this research assessed racial/ethnic differences in breastfeeding initiation and duration, maternal and child health characteristics,	Breastfeeding initiation rates and breastfeeding durations of 6 months were lower among WIC-eligible mothers compared with all mothers. WIC-eligible, foreign-born Mexican-Origin Hispanic (FBMOH) mothers were most likely to breastfeed for 6 months. Breastfeeding duration rates dropped quickly after 4 months of duration among WIC-eligible mothers that initiated. Two crossover patterns in breastfeeding durations were noted among 1)	The data source for this analysis is nationally representative of all births in the US in 2001, but the analytic sample included only children living in families that met income or categorical requirements to receive WIC benefits. It was not possible to classify Native Americans as native or foreign born.	Among all mothers, Asian, FBMOH, and other Hispanic mothers were most likely to initiate breast-feeding.

		social service usage, and sociodemographic characteristics.	FBMOH and non-Hispanic Black mothers and 2) Asian and Native American mothers.		
Tucker, C. M., Wilson, E. K., & Samandari, G. (2011). Infant feeding experiences among teen mothers in North Carolina: Findings from a mixed-methods study. <i>International Breastfeeding Journal</i> , 6, 14-14. doi:10.1186/1746-4358-6-14	The population-based sample comprises 389 teens' ages 13-17 giving birth to a live born infant in North Carolina in 2000 - 2005 and in 2007. Qualitative analyses are based on in-depth interviews with 22 Black, White and Hispanic teen mothers residing in rural and urban areas of North Carolina conducted between November 2007 and February 2009.	Quantitative descriptive analyses are conducted using data from the North Carolina Pregnancy Risk Assessment Monitoring System (PRAMS). Qualitative data from interviews.	Hispanic teens (44/52 or 89%) were much more likely than Black (61/159 or 41%) or White teens (87/164 or 52%) to initiate breastfeeding and to continue for a longer duration. Nearly sixty-two percent (29/52) of Hispanic respondents breastfed for greater than four weeks as compared to 16% (29/159) of Black respondents and 26% (39/164) of White respondents.	The sample size for the data is relatively small, particularly for sub-groups such as for Hispanic teens, so results should be interpreted with some caution. Teens participating in PRAMS may be more highly selected and may be more motivated to breastfeed than those who did not respond. By recruiting mothers through organizations serving adolescents, marginalized teens may have been missed.	In quantitative analyses, 52% (196 of 389) of North Carolina teen mothers initiated breastfeeding, but half of those who initiated breastfeeding (92/196) stopped within the first month postpartum. Common barriers to breastfeeding initiation and continuation included not liking breastfeeding, returning to school, nipple pain, and insufficient milk.

Manuscript Two

A Community Level Assessment of Institutional Support for Breastfeeding in the Gateway
District of Kentucky

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Abstract

Purpose: To assess community level support for breastfeeding in the Gateway District of eastern Kentucky.

Methods: A descriptive study was conducted to identify institutional support of breastfeeding women. Data collected during interviews included community level support based on the framework of the Ten Step program from the Baby-Friendly Hospital Initiative (BFHI) (WHO & UNICEF, 2009) and the Mother-Friendly Worksite Initiative (Texas Department of State Health Services, 2012). Respondents answered questions to determine breastfeeding support from the healthcare, education and business communities.

Results: Of the ten organizations whose representatives were interviewed, 100% perceived health benefits for mothers and infants from breastfeeding. Mean outcomes for perception of breastfeeding support by community facilities were 8.3 on a 10-point scale for healthcare, 6.6 for businesses, and 6.5 for educational settings. One hundred percent (100%) of the healthcare facilities were aware of the “Ten-Step Hospital” initiative. Sixty percent (60%) of the business facilities and none (0%) of the educational facilities were aware of the “Mother-Friendly Worksite” initiative. Barriers identified included inconsistent support of healthcare staff, identified breastfeeding rooms for new mothers, and areas to store expressed breast milk.

Conclusion: Evidence of breastfeeding support was identified at all three types of facilities. Healthcare settings provided education and opportunities for new mothers to begin breastfeeding immediately after birth. Business and educational settings provided flexibility and private places for expression of breast milk. Policies that are more formal are needed at all facilities to make the public, employees, and others who frequent the settings studied aware of breastfeeding support and guidelines in place.

Introduction

Infants receive many benefits from feeding on breast milk. These include resistance to infection through antibodies in breast milk, decreased likelihood for allergies, dental caries, many childhood cancers, and Sudden Infant Death Syndrome (American Academy of Pediatrics, 2012). Additionally, a growing body of evidence suggests that breastfeeding is protective against chronic diseases for mothers such as a decrease in breast, ovarian, and endometrial cancer, osteoporosis, postpartum depression, coronary pulmonary disease, and asthma (Godfrey & Lawrence, 2010; Lynch, Bethel, Chowdhury, Moore, 2011).

Each mother's decision about how she feeds her infant is a personal one. Because of the ramifications of her decision on her infant's health as well as her own, every mother in the nation deserves information, guidance, and support with this decision. The benefits of breastfeeding are identified by several prominent organizations of health professionals. These organizations include the American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), American College of Obstetricians and Gynecologists (ACOG), American College of Nurse-Midwives (ACNM), American Dietetic Association (ADA), and the American Public Health Association (APHA). These organizations recommend that infants should be exclusively breastfed for the first 6 months of life (United States Department of Health and Human Services, 2011).

Lack of clear or consistent definitions used in published peer-reviewed articles on breastfeeding has made it difficult to generalize and compare findings, limiting interpretation of these findings. For the purpose of this capstone project, definitions related to infant feeding will be outlined as follows (Labbok & Starling, 2012). The definition for initiation or ever breastfed is if the infant has received breast milk direct from the breast or expressed at any time since

birth. Exclusive breastfeeding is if the infant has received only breast milk from the mother or a wet nurse, or expressed breast milk, and no other liquids or solids with the exception of drops or syrups consisting of vitamins, mineral supplements, or medicines (Labbok, 2000). Thulier (2010) proposed other definitions for clarity in infant breast and bottle-feeding. He suggested predominantly breastfed is if the infant has received breast milk >75% of diet with inclusion of water, juice, artificial milk, or solid food. Mixed feeding would include the infant receiving breast milk 25 – 75% of diet with inclusion of water, juice, breast milk, or solid food. Exclusive artificial milk is if the infant has received artificially milk only in their diet.

Background

Despite all known benefits of breastfeeding on mother and infant health, rates remain low in the United States. National breastfeeding data collected in 2013 reveals that 79.2% are ever breastfed, 49.4% are breastfeeding at six months, 26.7% are breastfeeding at 12 months, 40.7% are exclusively breastfeeding at three months and 18.8% are exclusively breastfeeding at 6 months (CDC, 2014). Healthy People 2020 recommends that the number of mothers who breastfeed or initiate breastfeeding increase to 82% (United States Department of Health and Human Services, 2010).

Throughout the Commonwealth of Kentucky, the number of women who initiated or breastfed their children was lower than the national average. In 2013, only 61% of women breastfed with only 14% breastfeeding exclusively for 6 months (Center for Disease Control, 2014). The reader is referred to Figure 1 for comparison of breastfeeding rates across the Commonwealth of Kentucky.

Data from 2010 supports that Kentucky had one of the lowest breastfeeding rates in the nation (Bailey & Wright, 2011). Kentucky is identified as a state least likely to agree with

statements about the health benefits of breastfeeding and least likely to perceive breastfeeding in public as acceptable (Nouer, Ware, Baldwin, & Hare, 2015).

Kentucky has made an effort to offer support to families and protect future generations of mothers and children with the passage of a breastfeeding law in 2006. This law affirms a mother's right to breastfeed or express breast milk in public. The law says breastfeeding or expressing milk for a child "shall not be considered an act of public indecency and shall not be considered indecent exposure, sexual conduct, lewd touching, or obscenity" (Kentucky Cabinet for Health and Family Services, 2006).

When examining breastfeeding rates in different districts in Kentucky, there was an exceptional difference between urban and rural areas. For example, in 2010, counties in the Bluegrass district reported breastfeeding initiation rates of 52% to 70% vs. the Appalachian region of the Gateway District in eastern Kentucky where counties reported significantly lower breastfeeding rates of 39% to 50% (Kentucky Cabinet for Health and Family Services, 2011). The lower levels of breastfeeding in the Gateway District led to the idea of implementing a community level assessment to determine local needs and assets. The areas of concentration for the community level assessment focuses on only a subset of the community. For the purpose of this Practice Inquiry Project, the focus will be on healthcare, educational, and business support affecting breastfeeding in the Gateway District. Counties within the Gateway District are listed in Figure 2.

A woman's ability to initiate and continue breastfeeding is influenced by a host of community-based factors. The extent to which each of these entities supports or discourages the health behavior of breastfeeding can be crucial to a mother's success.

In 2009, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) expanded the scope of their services to encourage and support its participants in breastfeeding (USDHHS, 2011). Additional education in nutrition for breastfeeding mothers was provided, including peer support. Higher monetary value for food packages were made available for breastfeeding participants in the WIC program versus those not breastfeeding. Follow-up phone calls or planned visits from clinicians, community-based support groups, and home visitation programs were found to improve breastfeeding rates. Specific data on intervention strategies to improve breastfeeding rates were not provided (USDHHS, 2011). Web sites, online support, and hotlines were additional community support methods that mothers could utilize to support breastfeeding efforts. Marketing of infant formula within communities had a negative impact on breastfeeding (Tiedje, Schciffman, Omar, Wright, Buzzieta, McCann, & Metzger, 2002).

Exploring community resources and examining how they may influence a woman's choice to breastfeed may provide clues to help increase breastfeeding rates. Identifying the needed support systems will help mothers meet their personal breastfeeding goals. In the Gateway district, there is a lack of knowledge regarding community factors that influence breastfeeding rates. A community level assessment will help determine breastfeeding support needs and barriers experienced by the mothers in the Gateway District of Eastern Kentucky. For the purpose of this practice inquiry project, a community level needs assessment was piloted to identify influences beyond the mother-infant dyad and immediate family such as healthcare, educational, and business community support.

The total population in the Gateway district is 82,407 with 51.3% female and 96% white (U.S. Census, 2000). There were 1,043 live births in the year 2013. The Gateway district has

78% of females that have completed a high school diploma and per capita personal income of \$17,214 for both genders (Kentucky State Data Center, 2013). Smoking prevalence data available for the Gateway district was 28.5% in 2010 for males and females combined (Kentucky Department of Public Health, 2012). The odds of intending to breastfeed were 94% higher for women who had any education beyond high school compared to those who did not (Chertok, Luo, Culp, & Mullett, 2011).

The Gateway district has three obstetrics and gynecology physicians available to provide care for childbearing woman (Kentucky State Data Center, 2013). Although services are offered close to home, women may choose to seek obstetrical services outside the Gateway region such as Lexington, Ashland, or the Prestonsburg area. The services provided by the Gateway District Health Department include prenatal services; pre-conceptual risk assessment, folic acid, and counseling; tobacco education program; the Health Access Nurturing Development Services (HANDS) program offering support for first time parents; Women, Infant and Children (WIC) services; breastfeeding peer counselors; immunization; health education; and nutrition services.

Purpose

The purpose of this practice inquiry project is to assess community level support for breastfeeding women in the Gateway District of eastern Kentucky.

Project Objectives:

Project objectives are:

- (1) To assess healthcare, educational, and business community support for women breastfeeding in the Gateway District.
- (2) To identify breastfeeding barriers for Appalachian women.

Questions to be answered:

- (1) What level of support is offered to women breastfeeding by healthcare, educational, and business organizations in the Gateway District? A Likert scale will be used to measure the level of support.
- (2) What barriers to breastfeeding do Appalachian women face? Specific barriers assessed will include physical, psychosocial, social, economic barriers.

Framework

The framework to guide the community level assessment for healthcare agencies was the Baby-Friendly Hospital Initiative (BFHI). This is a global program that was launched by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) in 1991 to encourage and recognize hospitals and birthing centers that offer an optimal level of care for infant feeding and mother/baby bonding. It recognizes and awards birthing facilities who successfully implement the Ten Steps to Successful Breastfeeding. The BFHI assists hospitals in giving all mothers the information, confidence, and skills necessary to successfully initiate and continue breastfeeding their babies or feeding formula safely, and gives special recognition to hospitals that have done so (WHO, 1998).

Becoming a Baby-Friendly facility is a comprehensive, detailed and thorough journey toward excellence in providing evidence-based, maternity care with the goal of achieving optimal infant feeding outcomes and mother/baby bonding. It compels facilities to examine, challenge and modify longstanding policies and procedures. It requires training and skill building among all levels of staff. It entails implementing audit processes to assure quality in all aspects of maternity care operations. It creates opportunities to develop high performance work teams and build leadership skills among staff, promotes employee pride, enhances patient satisfaction

and improves health outcomes. The Ten Steps to Successful Breastfeeding were developed by a team of global experts and consist of evidence-based practices shown to increase breastfeeding initiation and duration (WHO, 1998). Baby-Friendly hospitals and birthing facilities must adhere to the Ten Steps to receive, and retain, a Baby-Friendly designation (WHO & UNICEF, 2009).

The Ten Steps to Successful Breastfeeding are:

1. Have a written breastfeeding policy that is available to all health care staff.
2. Train all health care staff in the skills necessary to implement the breastfeeding policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within one hour of birth.
5. Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.
6. Give infants no food or drink other than breast-milk, unless medically indicated.
7. Practice rooming in - allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no pacifiers or artificial nipples to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.

The framework to guide the community level assessment for businesses and educational organizations was the Mother-Friendly Worksite initiative from the Texas Department of Health (Texas Department of State Health Services, 2012). Texas set forth legislation in 1995 to standardize basic components of workplace support for breastfeeding. Employers that ensure

these components are in place are eligible to receive Mother-Friendly Workplace designation from the Texas Department of Health. The major components are as follows:

1. Flexible work schedules to provide time for milk expression.
2. Access to a private location for milk expression.
3. Access to a nearby clean and safe water source and sink for washing hands and rinsing out any breast-pump equipment.
4. Access to hygienic storage options for the mother to store her breast-milk.

The Texas Mother-Friendly Worksite encourages businesses to support breastfeeding employees. Employers that provide Mother-Friendly Worksites benefit from increased employee retention, lower absenteeism, higher morale, greater productivity, reduced health care costs, and improved health of the breastfeeding mother and her child (USDHHD, 2011).

Setting and Resources

The businesses in the Gateway District that hire most employees were identified through the Kentucky Cabinet for Economic Development's website (Think Kentucky, 2015) for counties in the Gateway District. Identification and recruitment of agency support was through a telephone call seeking agreement for participation in the study. Survey questions were answered by the human resources manager or nursing/business administrator through a personal interview with the Principal Investigator of the study. Each interview was conducted by the Principal Investigator in a private setting at the organization's location. The primary investigator used their personal phone to arrange interview dates. Prior to initiation of the study the proposal for the study was reviewed and approved by the University's Institutional Review Board.

Study Population

To assess the level of community support for breast feeding, a pilot community assessment was conducted using a sample of healthcare agencies, businesses, and college/universities in Kentucky's Gateway District. Of the 64 large businesses identified through the Kentucky Cabinet for Economic Development, the five businesses with the largest number of employees were invited to participate in the study. The number of employees at the businesses ranged from 350-1100. Two regional hospitals in the area that offer maternal child services as well as one community healthcare agency and the two college level settings in the area were invited to participate in the study.

Methods

Design

The design of the project was descriptive. Interviews were conducted to gain information about the level of support for breastfeeding mothers in the settings selected. Survey questions were adapted from the *Community Action Kit for Protecting, Promoting, and Supporting Breastfeeding* produced by the Texas Department of State Health Services (2007). Both quantitative and qualitative data were collected. Participants were included in the study based on their willingness to volunteer for the study. The dates of assessment were June to August 2016.

Data Collection

A specific survey questionnaire was developed for each type of organization based on the framework of the Ten Step program from the Baby-Friendly Hospital Initiative (BFHI) (WHO & UNICEF, 2009) and the Mother-Friendly Worksite Initiative (Texas Department of State Health Services, 2012). The questionnaires used in each of the categories of settings are presented in Appendices A, B, and C.

Representatives from each organization responded to questions via a private interview with the Principal Investigator. For each question on the survey respondents were asked to rate their perceived level of support for women breastfeeding on a Likert scale, from 0 – 10 with 10 being the highest level of support. The interviews were taped and reviewed by the Principal Investigator to clarify any questionable responses to any items on the survey.

Results

Data analysis was done by using the Microsoft Excel software program. Descriptive statistics included numbers, ranges, and means for the perceived breastfeeding support. Results from the community agencies are presented in Table 1. Percentages were used to measure perceptions of facilities being aware of the “Ten-Step Hospital” or “Mother-Friendly Worksite”. Data from questionnaires were collected to assess breastfeeding support as well as qualitative information specific to each agency.

Healthcare

One hundred percent (100%) of the healthcare facilities were aware of the “Ten-Step Hospital” initiative. The two hospitals represented in this study are making good progress in meeting the Ten Step program from the BFHI. Lactation consultants are used to support mothers and educate staff members on proper breastfeeding technique and hunger cues. At both institutions strengths included the practice of infants rooming in with mothers, encouraging breastfeeding on demand, and discouraging the use of pacifiers. Areas needing improvement include development of formal breastfeeding policy for the appropriate units, discharge support with follow-ups for breastfeeding mothers, and consistent staff support on educating new mothers on the benefit of breastfeeding. Results from the community healthcare survey are presented in Table 2.

Data collected from a non-hospital community based health organization provides evidence that the organization is a “Baby Friendly” service. Staff training occurs monthly at a local level with three mandatory state training sessions annually. Strengths include education provided by staff members to breastfeeding mothers, display of breastfeeding posters and materials at the facility, peer support and mentoring for breastfeeding mothers. Approaches identified by the organization’s representative to strengthen community support involved better communication between the hospitals where mothers deliver their newborns and the community organization. Peer counselors have shown a commitment to forge working relationships with hospital nursing staff for more open communication on patient’s delivery status. This will facilitate peer counselors being present and assisting breastfeeding mothers during the critical time of breastfeeding initiation. A barrier identified was communication issues with poor cell service in certain areas of the Gateway District keeping staff from being in contact with breastfeeding mothers or other agencies.

Business

Sixty percent (60%) of the business facilities were aware of the “Mother-Friendly Worksite” initiative. Strengths identified were having a private place allocated at the business site for mothers to express milk. Overall, businesses surveyed allowed flexibility in scheduling to allow for breaks for expression of milk. Weaknesses identified were hygienic storage areas for expressed milk. Only one facility had refrigeration for breast milk storage. Guidelines are in place at each place of business to be compliant with Kentucky breastfeeding laws. Other weaknesses identified included breastfeeding policies not being part of the general orientation to the facility but were provided to employees as needed through human resources during a request

for maternity leave. Presented in Appendix B are the results from the community business survey.

Education

None (0%) of the educational facilities were aware of the “Mother-Friendly Worksite” initiative. Strengths identified included flexibility with schedules to express milk during educational hours and utilizing a private place with an electrical outlet. Students are able to schedule their own course times allowing for flexibility. Weaknesses are no specific breastfeeding policy at either institution or lack of storage for expressed breast milk. Informally, faculty and staff work with students to meet breastfeeding needs. In Appendix B results from the community education survey are presented.

Discussion

The purpose of this practice inquiry project was to assess breastfeeding support for women at a community level in the Gateway District of eastern Kentucky. The first objective was to assess healthcare, educational, and business community support for women breastfeeding in the Gateway District. All representatives from the agencies firmly believed breastfeeding had health benefits for the mother and newborn. Strengths from the healthcare organizations included a desire to offer support to breastfeeding women, staying current on the literature of breastfeeding, and staff education conducted by lactation experts. Strengths from the business organizations included locations and flexibility of scheduling time for mothers to express milk. Strengths from the educational organizations included independence for students/employees to set their own schedules for expression of breast milk needs and a private place to do so.

The second objective was to identify breastfeeding barriers for Appalachian women. Several themes emerged from the survey identifying potential barriers to breastfeeding women in

Appalachia such as bottle feeding being a more natural choice for mothers due to convenience, lack of positive role models that had breastfed their children, and having a previous bad experience with breastfeeding or knowing someone who had a bad experience. Potential barriers in healthcare organizations included inconsistency of staff that offer supplementation to infants having difficulty breastfeeding, inexperienced staff new to the role of maternal newborn nursing, and lack of communication from hospitals to community peer breastfeeding counselors who desire to make contact with new mothers right after delivery of the newborn. Potential barriers in business organizations included informal policies about breastfeeding that were offered only at the time of family medical leave and inconsistency for flexibility in breaks allowing mothers to express breast milk. Potential barriers in educational organizations included students/employees unaware of private location to express breast milk and no storage areas for breast milk after expression.

Since breastfeeding rates are lower among infants living in rural areas, this study has important public health implications on how to better support breastfeeding mothers within the community.

Limitations

The sample in this study was a small convenient one. While it included the only hospitals with maternity services in the district and higher educational institutions in the target area it included only the largest employers and thus is not representative of the wider business community. Questionnaires were distributed in their place of employment and a lack of ethnic/cultural diversity was noted. The results of this study cannot be generalized to other settings and limitations are recognized to other rural areas due to the uniqueness of each community. A standard protocol was followed to identify key informants and facilities. The

responses may not accurately represent all practices or views on breastfeeding support by the community. All but two participants were female.

Implications for Practice

Many of the guidelines in place for breastfeeding support in the community settings studied were vague. Policies that are more formal need to be developed and implemented at each facility in each of the three categories. Policies need to be clearly written and shared during employee orientation at hire or enrollment and easily located in employee or student handbooks. Evidence from the literature suggest more attention be given to interpersonal communication for businesses and schools about breastfeeding support to increase breastfeeding rates for new mothers (Anderson, et al., 2015). There is value in improving all elements of breastfeeding support along the continuum at the same time: from home to community (workplace, school, healthcare, etc.).

Evidence from the literature shows that exposure to Baby-Friendly practices, lactation consultants and access to care increase breastfeeding duration (Munn, Newman, Mueller, Phillips & Taylor, 2016); Allen, Perrine & Scanlon, 2015). A suggestion from the literature, specific to target rural populations and other underserved areas, was to offer standardized prenatal education curricula and lactation services through the use of social media or other telehealth modalities to overcome barriers to breastfeeding (Ruffin & Renaud, 2015). Another suggestion for healthcare staff members working with mothers and infants is that they need to unify and provide consistent education, support, and follow-up for breastfeeding mothers. There were no signs displaying breastfeeding locations at local businesses or educational settings. Placing signs in public areas identifies workplace/educational breastfeeding support and conveys company support for the employee/student (Anderson, Kuehl, Drury, Schwaegerl, Hildreth.... Lamp, 2015). Embracing

breastfeeding as a concern for the entire community will help to close the support gap in care experienced by mothers in limited resource environments.

Table 1

Perception of Breastfeeding support from community agencies.

Agency	Score	Range	Mean
Healthcare 1	8	7 - 10	8.3
Healthcare 2	7		
Healthcare 3	10		
Business 1	6	4 – 8	6.6
Business 2	8		
Business 3	4		
Business 4	7		
Business 5	8		
Education 1	7	6 – 7	6.5
Education 2	6		

Scale from 0 – 10 with 10 being the highest level of support.

Table 2

Results from Community Healthcare Breastfeeding Support Survey

Ten Steps	Hospital 1	Hospital 2
Train all health care staff in the skills necessary to implement this policy.	√	√
Give infants no food or drink other than breast-milk, unless medically indicated.	√	√
Practice rooming in - allow mothers and infants to remain together 24 hours a day.	√	√
Encourage breastfeeding on demand.	√	√
Give no pacifiers or artificial nipples to breastfeeding infants.	√	√
Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.	√	x
Written breastfeeding policy that is routinely communicated to all health care staff.	x	√
Help mothers initiate breastfeeding within one hour of birth.	√	xx
Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.	√	xx
Inform all pregnant women about the benefits and management of breastfeeding.	xxx	xx

√ = meets recommendation

xxx = strong

xx = fair

x = weak

Table 3

Results from Community Business Breastfeeding Support Survey

Mother-Friendly	Business 1	Business 2	Business 3	Business 4	Business 5
Access to a private location for milk expression.	√	√	√	√	√
Access to a nearby clean and safe water source and sink for washing hands and rinsing out any breast-pump equipment.	√	√	√	√	√
Flexible work schedules to provide time for milk expression.	√	√	xx	√	√
Access to hygienic storage options for the mother to store her breast-milk.	√	xx	xx	xx	xx

√ = meets recommendation

xxx = strong

xx = fair

x = weak

Table 4

Results from Community Education Breastfeeding Support Survey

Mother-Friendly	Education 1	Education 2
Access to a nearby clean and safe water source and sink for washing hands and rinsing out any breast-pump equipment.	√	√
Access to a private location for milk expression.	xxx	xxx
Flexible work schedules to provide time for milk expression.	xxx	xxx
Access to hygienic storage options for the mother to store her breast-milk.	x	x

√ = meets recommendation

xxx = strong

xx = fair

x = weak

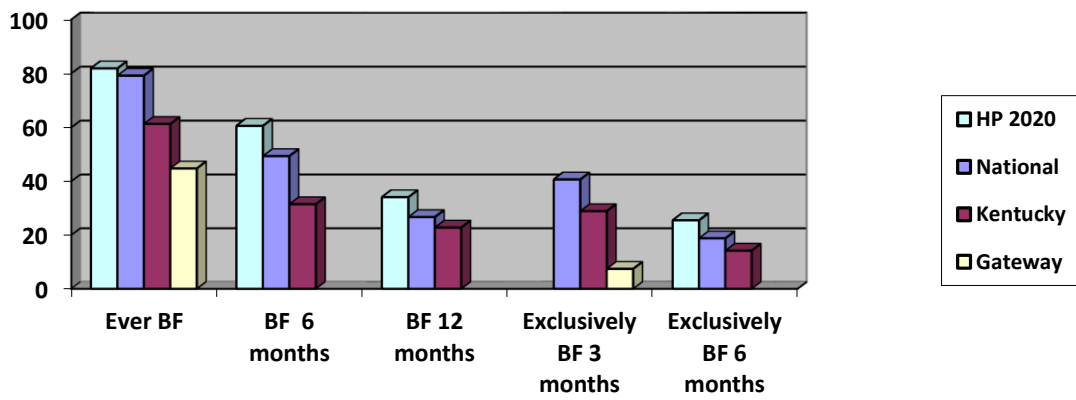


Figure 1. Comparison of Breastfeeding Rates – Healthy People 2020 Goals, National, Kentucky & Gateway District Rates for 2013.



Figure 2. Gateway District Counties – Montgomery, Bath, Meniffee, Rowan and Morgan.

Manuscript Three

Enactment of Kentucky House Bill 1 and 217 on Prescription Drug Use

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Abstract

This paper examines the implementation of Kentucky House Bill 1 (HB1) and House Bill 217 (HB217) through the lens of John Kingdon's Multiple Streams model. The prescription drug abuse issue in the state of Kentucky has reached levels of epidemic proportions, resulting in numerous deaths, elevations in the level of drug trafficking, and increases in the financial burdens placed on society through rises in health care costs and fraudulent use of programs such as Medicaid. Despite the implementation of Kentucky All-Schedule Prescription Electronic Reporting (KASPER) in 1999, and a subsequent update to enhanced KASPER (eKASPER) in 2005, problems persisted and compliance among the health care community was low, leading to the enactment of HB1 in April 2012, and the amendments of HB217 in March 2013. The process by which this occurred was analyzed using Kingdon's three streams: problems, policy, and politics.

While the legislative actions discussed increased compliance and decreased the rate at which controlled substances were prescribed, they did nothing to remedy the root cause of such issues- addiction. Thus, much work remains to be done at the policy level and clinically to deal with the problem of addiction in Kentucky.

Background and Significance of the Problem

Prescription drug abuse is a prevalent issue that has taken root nationally and in the Commonwealth of Kentucky. A comprehensive report from November 2006 by the Kentucky Cabinet for Health and Family Services (CHFS), Office of the Inspector General (OIG) states that between the years 1992 and 2003, the number of adults 18 and over abusing controlled prescription drugs saw an 81 percent increase nationally. Additionally, there was a 212 percent increase in the number of 12 to 17 year olds abusing such drugs (CHFS, 2006). The same report

also revealed that in 2003, 15.1 million Americans were reported as abusing prescribed controlled substances- more than the combined total of those using cocaine, hallucinogens, inhalants and heroin (CHFS, 2006).

When narrowing the focus to Kentucky, the harmful impact of prescription drug abuse is still observed statewide. According to Stone (2016), medication scripts were highest in Appalachia and Mississippi, with Kentucky having the highest rate, 42 prescriptions per person in the oldest group. Kentucky is the most medicated state in the country. Furthermore, the 2014 Kentucky Health Issues Poll (KHIP), a report generated by the Foundation for a Healthy Kentucky and The Health Foundation of Greater Cincinnati, maintains that Kentucky ranks fifth in the nation in deaths from overdoses involving prescription painkillers (KHIP, 2015).

Although controlled substance abuse is a state-wide epidemic and the Bluegrass as a whole remains a primary location for such illicit activities, controlled substance abuse is perhaps most prevalent in the eastern portion of Kentucky. It is in this region of the state that approximately 45 percent of individuals report they know someone with a prescription drug abuse problem (KHIP, 2015), and where some counties "...lead the nation in terms of grams of narcotic pain medications distributed on a per capita basis" (CHFS, 2006).

When examining controlled substance abuse, irresponsible prescribing practices must also be considered. From the years 2007 to 2012, 54 percent of Kentucky adults reported being prescribed pain relievers that cannot be purchased over-the-counter (KHIP, 2012). On a larger scale, from the years 1992 to 2003 there was a 150 percent increase nationally in the number of prescriptions written for controlled pharmaceuticals (CHFS, 2006). Furthermore, there exist many illegitimate pain treatment centers across the nation which present additional issues through excessive irresponsible prescribing practices and lackluster regulatory mechanisms.

Clearly abuse of controlled substances and poor prescribing practices combine to create a major travesty across the nation, and more specifically, the state of Kentucky. The overwhelming statistical evidence reinforces the dire necessity for political and legislative action to combat these ever-growing concerns as they affect multiple spheres of society, including health care, law enforcement and the well-being of the general public. Stricter regulations for the prescribing of controlled substances were in need of implementation, as well as a means by which to identify individuals who frequently “doctor shop” - a practice which involves an individual using deception to obtain controlled prescription substances.

In attempts to remedy the situation, a prescription drug monitoring program (PDMP) deemed Kentucky All Schedule Prescription Electronic Reporting (KASPER) was developed on July 15, 1998 when the Kentucky Legislature passed Kentucky Revised Statute 218A.202. This legislative action directed the “...establishment of an electronic system for monitoring controlled substances and establishing penalties for illegal use of the system” (CHFS, 2006). Data collection using KASPER officially began on January 1, 1999, making Kentucky one of the first states in the nation which required pharmacies and other dispensers to report data on all schedule II-V drugs dispensed (CHFS, 2006). However, the original KASPER utilized a contracted data collection agency and only required pharmacies to report information every 16 days. This proved to be a cumbersome and lengthy process and resulted in KASPER information that was 30-45 days old once received (CHFS, 2006). In response the Cabinet for Health and Family Services proposed a change which required information on KASPER to be reported every 8 days, as opposed to every 16 days. This resulted in data that was only 16 days old- nearly half the age of data under the previous collection requirements (CHFS, 2006).

While the above information applies to paper KASPER reporting which involved faxing and mailing documents, the CHFS realized the demand for KASPER reports was ever increasing and personnel available to respond to such requests in a timely manner was limited. In response to this demand, the Kentucky Legislature appropriated \$1.4 million in 2003 to make improvements to the then paper-based KASPER system (CHFS, 2006). With this appropriation of funds, the development of enhanced KASPER (eKASPER) began in 2003, and was launched in 2005. This new enhanced system allowed for the accession of real-time data by providers and an up-to-date report on an individual with a goal time of less than 15 minutes. That 1 time goal was actually surpassed, since eKASPER allowed approximately 90 percent of reports to be ready in 15 to 20 seconds (CHFS, 2006). This greatly improved the success rate of the program, as questionable prescriptions or suspect controlled substance abusers can be identified in a matter of seconds while they are present with the provider, as opposed to waiting an excessive number of days as previously mentioned.

Even with the benefits it provided, eKASPER had a major limitation – there was no requirement that providers and pharmacies use it when rendering services to patients. Even with the benefits provided by a prescription drug monitoring program such as eKASPER, compliance remained low and abuse of controlled substances remained a very real problem. According to information provided in February 2012 at the Kentucky Prescription Drug Abuse Summit hosted by the Eastern and Western Kentucky districts of the United States Attorney’s Office (USAO), only about one third of physicians actually possessed an eKASPER account at that time. Furthermore, USAO (2012) statistics reported that 82 Kentuckians die each month from prescription drug overdoses, nearly 7,000 to 8,000 babies are born addicted in Kentucky every

year, and 90 percent of patients at some Florida pain clinics were from Kentucky- a component of the infamous Florida “pill pipeline”.

With the persistent rise in abuse rates, and the ever-looming issue of controlled substance trafficking present across the state, Kentucky House Bill 1 (HB1) was signed into effect by Governor Steve Beshear on April 24, 2012 and formally went into effect on July 20, 2012. In summation, the Office of the Attorney General (OAG) stated that HB1 required all providers of controlled substances to register with KASPER and to run a KASPER report on an individual before prescribing a schedule II-V controlled substance (OAG, 2012). It also required that dispensers of controlled substances (such as pharmacists) report to KASPER when any schedule II-V controlled substance is dispensed, and increased regulations which govern pain management clinics in an attempt to shut down those running as “pill mills” by abusing prescribing privileges (OAG, 2012). House Bill 1 also granted the Kentucky State Police (KSP), CHFS-OIG, OAG and the six professional boards (Medical Licensing, Nursing, Pharmacy, Dentistry, Optometry, and Podiatry) access to KASPER reporting (OAG, 2012).

The passage of HB1 resulted in successful reductions in rates of controlled substances prescribed and compliance with the KASPER system. According to the Office of the Governor (OG) as of October 2012, 18 of Kentucky’s 44 facilities identified as pain management clinics had ceased operations. Compliance with KASPER had also increased, with a rise in registered accounts from 7,911 in April 2012 when HB1 was signed to 21,542 accounts on October 1, 2012 (OG, 2012). More recently, in March 2013, prescribed doses of controlled substances further decreased secondary to the actions of HB1 and KASPER. Specifically, such as hydrocodone was down 11.8 percent and alprazolam was down 14.5 percent (OG, 2013). The volume of KASPER reports received daily had also increased substantially secondary to increased

compliance. Prior to the implementation of HB1, KASPER generated approximately 3,000 reports daily, which the OG reported had then increased to 18,000 reports daily as of March 2013.

Despite advances in combating prescription drug abuse, KASPER and HB1 were still met with opposition from some groups, which will be later discussed. To remedy this situation, House Bill 217 (HB217) was signed into effect by Governor Beshear on March 5, 2013 (OG, 2013). This further defined some gray areas in HB1 and streamlined the process of obtaining controlled substances for individuals who were acutely hospitalized, terminally ill or undergoing operative procedures (HB217, 2013).

Conceptual Framework and Analysis of the Issue

In order to deepen the understanding of how current methods of controlling the prescription drug abuse issue came into being, an analysis of HB1 and HB217 was performed utilizing John Kingdon's Multiple Streams model. The Multiple Streams model, as presented in *Agendas, Alternatives and Public Policies* (1995), is directly related to Kingdon's ideologies on policy formation in the United States. Three distinct "streams" are identified in this model- problems, policies and politics. Kingdon (1995) proposed that when there is a merging of two or all three streams surrounding a policy issue it is more likely that a window of opportunity for change will open resulting in an increased likelihood that the issue would get on the political agenda and acted upon.

The Problem Stream

The first of these streams- the problem stream- involves events or indicators which bring issues to the attention of the government (Kingdon, 1995). As previously mentioned, obvious governmental indicators include exceedingly high abuse rates of prescription substances

in the state of Kentucky. As a state which ranks fifth in the nation for overdose deaths related to prescription pain killers (KHIP,2015) and a state which was also cited as the most medicated nationally (Stone, 2016), obvious issues exist in Kentucky which require governmental intervention. Irresponsible prescribing practices also contribute to the above issue, where “pill mill” pain clinics were easily able to dispense schedule II-V controlled substances for cash with little regulatory mechanisms in place to deter such practices (CHFS, 2006). From the years 2007 to 2012, 54 percent of Kentucky adults reported being prescribed pain relievers that cannot be purchased over-the-counter (KHIP, 2012). This high rate of prescribing only increases the amount of substance available for trafficking and abuse.

Adding to the problem stream which necessitated the implementation of HB1 was the Kentucky-Florida “pill pipeline”. According to a 2011 article by reporter Laura Ungar in the Louisville Courier-Journal, Fort Lauderdale law enforcement and drug policy officials estimated that 60 percent of Kentucky’s illicit pills come from Florida. Much of this was attributed to Florida’s lax regulations for the opening and management of pain clinics, where more than 730 registered clinics existed at the time- as opposed to Kentucky’s then 44 (Ungar, 2011). Prior to newer 2011 Florida legislation, convicted felons were even permitted to own and operate pain clinics (Ungar, 2011). It is in this “pill pipeline”, reports Ungar (2011), that the most notorious Florida pain clinics prescribed as many as 240 30mg oxycodone, 90 15mg oxycodone and 60 or 90 Xanax to a single patient, with no x-ray, magnetic resonance imaging (MRI) or other medical documentation which exhibits proof of a painful condition. These pills are then brought back to Kentucky for personal use of the addict, with the excess being sold at inflated prices on the street. These overwhelming statistics further supported the need for legislative intervention in the state of Kentucky to combat prescription drug abuse.

Not only do these high abuse rates impose severe consequences on the lives of the individuals affected by addiction, but they also hold repercussions for multiple other areas of society. Economic consequences of prescription drug abuse must also be considered as a part of the problems stream. It seems at times that nothing is more effective in spurring governmental bodies into action than finances, and the burdens that controlled substance abuse placed on the state of Kentucky's economy proved to shed light on the woeful inadequacies of regulatory mechanisms then in place. The USAO reported the following in the 2012 Kentucky Prescription Drug Abuse Summit summary:

“An FBI analyst estimates that approximately 80% of the people indicted on drug felony charges in his 17 county area were using some sort of government benefit program such as food stamps, Supplemental Security Income, etc., to subsidize the money they use to obtain pills” (p.5).

Moreover, as of 2006 the “...costs for prescription drug misuse and abuse were estimated to impose approximately \$100 billion annually in health care costs” and Medicaid sees a \$1 billion per year loss secondary to spending on fraudulent prescription drug use (CHFS, 2006). The Cabinet for Health and Family Services also reported in 2006 that the number of emergency department visits related to prescription drug abuse had increased “...three and one half times more than heroin related visits and four times more than visits linked to cocaine abuse”. This large additional financial burden on the health care industry resulted in an increase in costs for those in dire need of medical services, in addition to an increase in law enforcement costs which must be absorbed by the general public.

Further calling governmental officials into action was a “focusing event”. Kingdon (1995) describes a “focusing event” as “...a crisis or disaster that comes along to call attention to

the problem, a powerful symbol that catches on, or the personal experience of a policy maker”. One such event occurred with a 2001 eastern Kentucky drug bust, in which addicts and traffickers in three eastern Kentucky counties had enough hydrocodone pills to provide every adult in those counties with 156 pills each (CHFS, 2006). This event received excessive media attention, furthering piquing the interest of the government and general public alike and drawing attention to the ever-growing prescription drug problem across the state (CHFS, 2006).

Within the problem stream, additional support for action came in the form of the lack of compliance with the pre-existing KASPER system which had been in place since 1999. In early 2012 prior to HB1 implementation, only about one-third of physicians held eKASPER accounts (USAO, 2012). During that same time frame, the USAO (2012) polled 2,000 physicians and 2,000 pharmacists, and a combined 90 percent stated they found KASPER useful in preventing doctor shopping, and an additional 50 percent stated a KASPER report altered their decision to write a prescription. Clearly, health care providers were in agreement that KASPER was an incredibly beneficial- legislative action and it needed to be made a requirement.

With regard to HB217 alone, issues existed within the problems stream which warranted its passage. After HB1 became effective in July 2012, many health care providers began to feel that it limited their ability to provide controlled substances to certain demographics of patients. Dr. Kathy Nieder, a primary care physician in Louisville, wrote on July 30, 2012 of the woes of KASPER under the new HB1. She described the grueling process a typical law-abiding citizen must undergo to simply obtain a drug classified as a controlled substance:

“How appropriate is it that I ask my 88-year-old patient to submit to a urine screen for the hydrocodone she takes some nights for her severe spinal stenosis? Oh, and if you follow the letter of the law, if that drug screen is NEGATIVE I am supposed to stop prescribing

the hydrocodone and send her to a drug treatment program! Then again there is the patient who calls in for a couple of Xanax to take for an eight-hour plane ride, usually someone who's been a patient of mine for years. They have to come in first for a COMPLETE physical exam (which their insurance will not pay for unless it has been more than a year from the last and it is a two month wait to get a physical in my office) and be counseled regarding use and abuse of narcotics including signing the informed consent. Same for cough medications--so how many doctors will be prescribing cough medications with controlled substances do you think? How much time does the governor think we primary care doctors have?" (Nieder, 2012).

Due to the concerns of many health care providers such as Dr. Nieder, the problem stream once again presented issues which needed to be address by refinement in legislation. This later would give rise to HB217 when merged with openings in the two other streams- creating a window of opportunity.

The Policy Stream

Running parallel, but independently with the problems stream is the policy stream. Kingdon (1995) likened the policy stream to a "primeval soup" wherein numerous ideas "float around"- some gaining prominence and some fading due to lack of interest. He maintained that in order for political ideas to be brought to the forefront and for change to occur, adequate support must be present (Kingdon, 1995). At times, this support comes in the form of a "policy entrepreneur", an individual which Kingdon (1995) described - as one who attempts to advocate for new policy or introduce new ideas to a community over a period of time. This support can come in the form of investments of time, money and other resources in hopes of a resulting policy change (Kingdon, 1995). Perhaps the original policy entrepreneur for controlled

substance abuse in the political stream was Congressman Harold “Hal” Rogers (R) from Kentucky’s 5th Congressional District. As a Congressman in Kentucky’s 5th district, which encompasses all of eastern and southeastern Kentucky, Rogers knew first-hand the issues that arose from the heavy abuse rates present in his area of the state. In 2002, Rogers spearheaded the Consolidated Appropriations Act in the United States Department of Justice which created a grant program entitled Developing and Enhancing Prescription Drug Monitoring Programs (PDMPs) (CHFS, 2006). These grants were named Hal Rogers’ Grants to honor him as the primary sponsor of the act, and their purpose was ultimately to assist states in establishing PDMPs if they did not have one, or to help states with pre-existing PDMPs make improvements to their system in order to increase “...efficiency and effectiveness...” of the programs (CHFS, 2006). This act and the financial support of the Hal Rogers’ Grants essentially laid the framework for the restructuring of KASPER to eKASPER in 2005, and later the advent of HB1.

In 2012, after creation of the Hal Rogers Grants and the improvements made to KASPER, House Speaker Greg Stumbo (D) and House Judiciary Committee Chair John Tilley (D) saw a persistent need for legislation due to the ever-present controlled substance issue and the unscrupulous practices of some state pain management clinics. For this reason, Stumbo and Tilley rallied behind and sponsored Kentucky HB1, which would make KASPER a requirement and increase regulations for pain management clinics (HB1, 2012). This policy maneuver was incredibly feasible, as an up-to-date monitoring system was already in place with eKASPER and no new system would need to be developed. It would also require essentially no additional financial aside from the occasional rise in prison costs from an increase in the number of inmates due to prescription drug use or trafficking.

According to the Kentucky Legislative Research Commission (LRC) in 2012, House Bill 1 received largely bipartisan support as it passed the House with a vote of 68 to 19, which demonstrated a large degree of cohesiveness among political parties on the prescription drug abuse issue. It was signed by Gov. Beshear on April 24, 2012 and officially became law on July 20, 2012 (OAG, 2012).

After passage of HB1, some opposition began to arise from care providers regarding the constraints it placed on certain patient populations (such as the terminally ill and those undergoing operative procedures) as mentioned in the problems stream. According to Christopher Shaughnessy (2013) of The National Law Review, Governor Beshear, in response to these concerns, held a series of stakeholder meetings to “...address some of the compliance and logistical issues that were being raised...”. The end result of these meetings was the enactment of HB217-also sponsored by Stumbo and Tilley- which was officially signed on March 5, 2013. It received full bipartisan support and cleared the Kentucky House and Senate with votes of 99 to 0 and 36 to 0 respectfully (HB217, 2013). This amendment to HB1 streamlined the process of obtaining controlled substances for patients who are terminally ill, reside in long term care facilities, acutely hospitalized or undergoing operative procedures (HB217, 2013). It also further served to define gray areas of the mechanisms which govern pain management clinics and the logistics involved in their ownership and who may oversee their practices (HB217, 2013). House Bill 217 also remained the most feasible option for addressing the concerns created by HB1, as it involved amending existing legislation instead of creating entirely new legislation or developing an entirely new system.

The Political Stream

The third of Kingdon's streams which plays role in policy formation is the political stream. Kingdon (1995) described the political stream as being composed of "...public mood, pressure group campaigns, election results, partisan or ideological distributions in Congress, and changes of administration". Clearly the public mood played a large role in bringing the enactment of HB1 to fruition. Numerous media outlets released various reports over the years, even post-KASPER initiation, detailing the excessive prescription drug abuse issue in Kentucky, earning many addicted Kentuckians the nickname "pillbillies". One such report in December 2012 by Stephanie Smith and Nadia Kounang of CNN Health clearly outlined the public opinions of eastern Kentucky's Rockcastle County. According to Smith & Kounang (2012), at that time Rockcastle County was averaging approximately one drug-related death per week- most of which are parents of children in the community- a statistic reinforced by a 2010 Census of the area which showed an excessive number of children who were being raised by adults who were not their biological parents. Operation Unlawful Narcotics Investigations, Treatment and Education (UNITE), a task force and support group started by Congressman Rogers in 2003, began speaking out claiming it was the children of eastern Kentucky who were paying the price (Smith & Kounang, 2012). The UNITE officials told the story of one small girl who had both a father and uncle overdose on prescription drugs, forcing her to live with an aunt (Smith & Kounang, 2012). These stories, in addition to numerous others, played a role in shaping public mood and giving potential pressure groups such as UNITE ammunition for policy change.

As mentioned in the policy stream analysis, various physicians and provider groups made known their stance on the difficulties imposed by HB1 on their practice. It was because of

the pressure from these groups that Gov. Beshear held meetings to discuss what changes were necessary, and the enactment of HB217 came to pass (Shaughnessy, 2013).

When examining the political stream, it is also of great importance to analyze current administration and cohesiveness among partisan politics on major issues (Kingdon, 1995). As demonstrated by the vote history on HB1 and HB217, both parties are in agreement that prescription drug abuse remains a serious issue in the Commonwealth. Furthermore, Governor Beshear was a staunch supporter on the issue of substance abuse, stating that "...Kentucky is deadly serious about stopping this scourge of prescription drug abuse..." (OAG, 2012). The strength of bipartisan support and of the state's leader allowed for the support necessary for the enactment of HB1 and HB217.

A Proposed Next Step

Since the enactment of KASPER, HB1 and HB217, Kentucky has made strides toward combating the prescription drug abuse epidemic that plagues its people. House Bill 1 and the subsequent HB 217 have decreased the rates at which controlled substances are provided, aided in identifying abusers of controlled substances and decreased rates of drug trafficking by reducing the extent of pharmaceuticals available, issues still remain. However, the root cause of the issue has still failed to be fully addressed- addiction. A decrease in the prescribing of controlled substances and an increase in KASPER compliance does not necessarily equate with decreases in addiction and its consequences. For this reason, a restructuring of KASPER, HB1 and HB217 to include a referral component for identified or suspected controlled substance abusers appears to be needed. To accomplish this HB1 and HB217 would need to be formally amended, as well as the PDMP KASPER to create a new referral interface. Theoretically, there should be little economic impact upon the state as a whole, as there remain in place numerous

addiction counseling support groups free of charge such as Narcotics Anonymous (NA) and Operation UNITE, which would supply treatment vouchers to individuals who cannot afford necessary treatment (USAO, 2012). By treating those addicted, lives could be saved and other benefits might result such as decreased Medicaid fraud and emergency room visits with the intent of “doctor shopping”.

Conclusion to Practice Inquiry Project Report

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The first manuscript presented a review of available literature on breastfeeding support in rural areas. Analysis revealed limitations of research conducted in rural areas in the United States. Our long term objective is to identify areas of support for breastfeeding mothers in rural Eastern Kentucky. The second manuscript explores a descriptive study conducted in ten organizations to better assess the community level of support for breastfeeding in the Gateway District of Kentucky. Finally, the third manuscript describes the enactment of House Bill 1 and House Bill 217 in Kentucky on prescription drug use utilizing Kingdon's Multiple Stream model. This policy paper shows the impact of laws and how society and healthcare can be affected by these changes.

Health promotion is the key to disease prevention. The best way to start on the road to good health is with breastfeeding. Research has shown us that education and general knowledge about the benefits of breastfeeding is readily available to the general public. Identifying barriers to rural areas where breastfeeding rates are lower will assist health care professionals to develop strategies to offer support and change the culture of infant feeding. This study was the first step in identifying what support is available for the Gateway District and areas where improvements can be made to benefit new mothers choosing to breastfeed. In the future, more formal policies on breastfeeding and consistent healthcare professional support are needed to improve the level of support for new mothers.

Implications for Doctoral-Prepared Advanced Practice Nurses

DNP Essentials

The Essentials of Doctoral Education for Advanced Nursing Practice, or the DNP Essentials, include eight core competencies that a doctoral prepared nurse should have to lead in an increasingly complex healthcare system in order to improve nursing practice and the

outcomes of individual patients and populations. As a Doctor of Nursing Practice candidate, the following summaries outline how these essentials will be applied to my practice.

I. Scientific Underpinnings for Practice

Throughout my DNP education, I have acquired a strong basis in the sciences with courses such as Applied Statistics and Epidemiology. Having acquired knowledge of middle range theories, I will use Nola Pender's Health Promotion Model to empower new mothers with ways to promote their health and their newborns health with breastfeeding. For example, this model would apply to the problem currently seen in the Gateway District of Kentucky with low breastfeeding rates that became apparent in my practice inquiry project. For my practice inquiry project, frameworks were utilized to guide the community level assessment such as the Mother-Friendly Worksite initiative from the Texas Department of Health and the Baby-Friendly Hospital Initiative (BFHI).

II. Organizational and Systems Leadership for Quality Improvement and Systems Thinking

As a DNP graduate, one has acquired the ability to improve clinical practice by applying organizational and financial skills learned in the DNP educational courses. Offering expertise with the assistance in the development of formal breastfeeding policies throughout the community will allow me to continue the work of my practice inquiry project to improve the quality and cultural appropriateness of care in the Gateway District.

Offering to speak in prenatal classes and schools of nursing and other health programs to change the culture of breastfeeding will also benefit this rural area. The general population needs to be aware of the health risks associated with formula feeding. The Leadership course in the DNP program should help with conveying changes that are needed in this community to meet these goals.

III. Clinical Scholarship and Analytical Methods for Evidence-Based Practice

Quality improvement in the community setting will require applying research to practice and using proven methods to evaluate and make improvements in the care of patients in the community. For example, my practice inquiry project involved the use of interviews to gather data to measure outcomes of breastfeeding support to improve the support of mothers choosing to breastfeed. An evidence-based policy for breastfeeding support could provide the basis for structuring care and measuring outcomes within community organizations.

IV. Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care

The Epidemiology and Applied Statistics courses in the DNP program gave me a background for understanding how data can be used to help improve the care of patients and populations. The questionnaires used in the practice inquiry project were to gauge how well the community organizations were meeting nationally approved guidelines on breastfeeding support in healthcare, business, and educational settings. It also was used to gather data to evaluate each community organizations perception of breastfeeding support. Data was generated from the questionnaires to evaluate the support provided by the community organizations and identify areas for improvement with perceived barriers to breastfeeding. Plans are in place to develop lactation policies for local business and educational settings in the Gateway District. Providing policies will empower new mothers to breastfeed if they choose to do so.

V. Health Care Policy for Advocacy in Health Care

The DNP Health Policy provided a strong background for advocacy in health care. Participation in the Kentucky Nurses Association, the Kentucky Nurses League of Nursing and the Eastern Kentucky Breastfeeding Coalition (EKBC) and monitoring the message boards for

these organizations has also increased my awareness of the political issues facing health nurse educators in the state of Kentucky. The EKBC has been very active in promoting breastfeeding in the eastern part of Kentucky, advancing the ability of lactation consultants to reach the population to the extent of their capabilities. While strides have been made, the participation and support of all maternal child nurses in the state of Kentucky is needed to continue to empower Kentucky's women to consider breastfeeding and to increase accessibility to care and improve the quality of care of Kentuckians.

VI. Interprofessional Collaboration for Improving Patient and Population Health Outcomes

Collaboration among professionals is a necessary to ensure the best care for our patients. As such, in the Gateway District, community partners work very closely with hospitals, health departments, and clinics to build a strong working relationship to ensure that the health of our citizens remains a top priority. Fostering respect and cooperation with the different nursing staff within the community is a high priority and improves the care provided to our patients. Supporting breastfeeding will ensure the best health possible for newborns, and by offering support to mothers returning to work and/or school this will improve their ability to succeed in the workplace or academically.

In this practice inquiry project, the community level assessment study revealed informal policies on breastfeeding at many of the organizations. While this was not necessarily due to poor collaboration among the administrators and/or employees in these organizations, informing and involving them with these findings will promote improvement in policy development in the future.

VII. Clinical Prevention and Population Health for Improving the Nation's Health

Prevention is key to improving the health of our nation and our community. Focusing on the specific needs of our local area to improve their health is a priority. It was evident from my practice inquiry project that breastfeeding rates are very low for our population. The project also increased my awareness of community resources that were currently available to breastfeeding mothers. We need to focus on educating our patients about breastfeeding but also support them during this time with formal policies to normalize the breastfeeding experience. There are excellent healthcare professionals working towards these goals daily but we need to continue educating beginning practitioners on the health benefits for mothers and infants who breastfeeding.

VIII. Advanced Nursing Practice

I chose the DNP program rather than the PhD program to further my studies because I wanted to improve my abilities as a practitioner, a health educator, and as an advocate for the improved health of my patient population. I also see the importance of being an advocate for advancing the ability of nurses in Kentucky to focus on preventive health to care for rural Kentuckians, and for allowing nurses to support their patients to the full extent of their education and capabilities. The DNP curriculum has increased my awareness of the issues and has improved my ability to support these goals. This increased awareness and empowerment was facilitated by courses in health policy, research, leadership, and technology. I also see the importance of supporting new nurses, and I have served as a preceptor in the past. I will continue in this role to help educate and empower new nurses.

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Appendix A
Community Support from Healthcare Questionnaire

1. Is your facility a “Ten Step Hospital”? What aspects does your facility incorporate into mother/infant care that meet the “Ten Step” guidelines? If not, have you heard of the program?
2. What are some of the attributes used by staff to promote and support breastfeeding? Have you formulated these as policies? Are all staff aware of it?
3. What strategies do staff incorporate if new mother’s encounter problems with breastfeeding? Are all staff comfortable with these techniques?
4. Do staff members receive training in breastfeeding management? Tell me about any training in which you or any of your staff have received.
5. Are your staff members kept current in breastfeeding issues and management practices? How so?
6. Do you encourage breastfeeding? To what extent?
7. Is there a systematic effort to encourage initiating breastfeeding within the first hour of birth? How is this accomplished?
8. Is there a systematic effort to instruct new mothers on how to breastfeed and recognize hunger cues? How is this accomplished?
9. Do you encourage rooming-in? How so?
10. Do you interrupt breastfeeding? How do you refrain from interrupting breastfeeding unless you have a physician’s order to do so?
11. Do you discourage pacifiers and/or artificial nipples? How do you discourage the use of pacifiers/artificial nipples?
12. Do you give formula or water supplements to breastfeeding babies? Why or why not?
13. How do you explain the implications of introducing formula to a breastfed baby?
14. Do you have breastfeeding pamphlets, brochures, posters, videos and handouts available for clients? What types of instructional methods are used at your facility?
15. Do you give free formula samples or coupons to new mothers? Why or why not?
16. Do you provide follow-up breastfeeding assistance for mothers after discharge? How so? If not, do you refer mothers to breastfeeding classes or support groups?
17. For IBCLCs who may be employed by the hospital: How do you feel about the breastfeeding education and support at your facility?
18. What do you see as an ideal view on infant feeding to be continued in the future?

Texas Department of State Health Services (2007). *Community Action Kit for Protecting, Promoting, and Supporting Breastfeeding*. Retrieved from: <http://www.dshs.state.tx.us/wichd/bf/bf1.shtm>

Appendix B
Community Support from Educational Questionnaire

1. Do you perceive your facility to be a “Mother-Friendly Worksite”? What aspects does your facility incorporate that meet the “Mother-Friendly” guidelines? If not, have you heard of the program?
2. Do you allow your students to flex their schedules so they can express milk during educational hours? To what extent? Are all students aware of this?
3. Are you supportive when students need to breastfeed in your educational setting? How so?
4. Is there a private place available for new mothers to express their milk that also has an electrical outlet and is not a bathroom? Where is this located at your campus? If not, where do breastfeeding mothers express milk during their school hours?
5. Are faculty/staff aware of breastfeeding locations on campus?
6. To what extent do you perceive breastfeeding to have health benefits?
7. How do you perceive a Mother-Friendly Worksite program would benefit your educational setting?
8. Are there policies or guidelines in place for breastfeeding at your facility? If so, how are students, teachers, and administration made aware of these policies?
9. Would you like to receive additional information on the “Mother-Friendly Worksite” program?

Texas Department of State Health Services (2007). *Community Action Kit for Protecting, Promoting, and Supporting Breastfeeding*. Retrieved from: <http://www.dshs.state.tx.us/wichd/bf/bf1.shtm>

Appendix C
Community Support from Business Questionnaire

1. Do you perceive your facility to be a “Mother-Friendly Worksite”? What aspects does your facility incorporate that meet the “Mother-Friendly” guidelines? If not, have you heard of the program?
2. Do you allow your employed mothers to flex their schedules so they can express their milk during work hours? To what extent? Are all employees aware of this?
3. Are you supportive when customers need to breastfeed in your place of business? How so?
4. Is there a private place for new mothers to express their milk that also has an electrical outlet and is not a bathroom? Where is this located at your business? If not, where do breastfeeding mothers express milk during work hours?
5. Are employees/customers aware of breastfeeding locations at your place of business?
6. To what extent do you perceive breastfeeding to have health benefits?
7. How do you perceive a “Mother-Friendly Worksite” program would benefit your business setting?
8. Are there policies or guidelines in place for breastfeeding at your business? If so, how are employees/customers made aware of these policies?
9. Would you like to receive additional information on the Mother-Friendly Worksite program?

Texas Department of State Health Services (2007). *Community Action Kit for Protecting, Promoting, and Supporting Breastfeeding*. Retrieved from: <http://www.dshs.state.tx.us/wichd/bf/bf1.shtm>